## (19) World Intellectual Property Organization

International Bureau



## 

## (43) International Publication Date 7 October 2004 (07.10.2004)

## (10) International Publication Number WO 2004/086105 A3

(51) International Patent Classification7: H01K 1/32, H01J 61/35

G02B 5/28.

(21) International Application Number:

PCT/IB2004/050292

(22) International Filing Date: 19 March 2004 (19.03.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 03100742.0

24 March 2003 (24.03.2003)

(71) Applicant (for DE only): PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE]; Steindamm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US): KONINKLLIKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

- (75) Inventor/Applicant (for US only): RITZ, Arnd [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).
- (74) Agent: VOLMER, Georg; Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

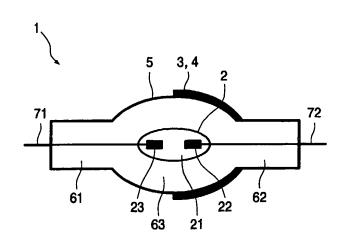
### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 11 November 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LAMP



(57) Abstract: The invention relates to a lamp comprising a lamp bulb (1), on the surface of which at least one interference filter (3) is at least partially located, wherein at least this interference filter (3) comprises several layers, wherein the layer structure comprises alternating layers (3.1) with a higher refractive index and layers (3.2) with a longer refractive index, wherein at least the outer layer and/or at least one inner layer of the interference filter (3) comprises a protective layer (4) to reduce thermal and/or intrinsic stresses, and wherein the thickness of the protective layer (4) or protective layers (4) has a value below 40% of the value of the total thickness of all other layers with the lower refractive index.



## INTERNATIONAL SEARCH REPORT

IB2004/050292

a. classification of subject matter IPC 7 H01K1/32 H01J61/35 G02B5/28 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H01K H01J GO2B Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages 1-5,7US 5 680 001 A (MULDER CORNELIS A M ET X AL) 21 October 1997 (1997-10-21) the whole document US 4 652 789 A (YUGE YOJI ET AL) 1-7 X 24 March 1987 (1987-03-24) abstract; figures 1,2 column 2, line 28 - line 48; table 1 1 EP 0 654 814 A (GEN ELECTRIC) Α 24 May 1995 (1995-05-24) abstract; figure 1 page 1, line 41 - line 48 page 2, line 43 - line 57 page 4, line 32 - line 58 page 6, line 18 - line 57 -/--Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention \*E\* earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled citation or other special reason (as specified) document referring to an oral disclosure, use, exhibition or document published prior to the international filing date but later than the priority date claimed '&' document member of the same patent family Date of mailing of the international search report Date of the actual completion of the international search 15/09/2004 8 September 2004 Authorized officer Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Tano, V Fax: (+31-70) 340-3016

# V

## **INTERNATIONAL SEARCH REPORT**

/IB2004/050292

C (Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	10200 1, 00000		
Category °		Relevant to claim No.		
A	US 5 923 471 A (WOOD II BYRON A ET AL) 13 July 1999 (1999-07-13) cited in the application abstract; figures 1,6 column 4, line 28 - line 54 column 5, line 12 - line 25 column 6, line 57 - column 7, line 21			

## INTERNATIONAL SEARCH REPORT

/IB2004/050292

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5680001	A	21-10-1997	CN DE DE EP	1136365 A ,B 69529270 D1 69529270 T2 0724772 A1	20-11-1996 06-02-2003 09-10-2003 07-08-1996
			WO	9606453 A1	29-02-1996
US 4652789	Α	24-03-1987	JP	1891544 C	07-12-1994 16-02-1994
			JP JP	6012663 B 60258846 A	20-12-1985
			CA	1231369 A1	12-01-1988
			DE	3580864 D1	24-01-1991
			ΕP	0164064 A2	11-12-1985
			KR	8904639 B1	21-11-1989
EP 0654814		24-05-1995	US	5422534 A	06-06-1995
			ΕP	0654814 A2	24-05-1995
			DE	69318560 D1	18-06-1998 17-12-1998
			DE Ep	69318560 T2 0598539 A2	25-05-1994
			JP	6201915 A	22-07-1994
			ÜS	5569970 A	29-10-1996
US 5923471		13-07-1999	EP	1009949 A1	21-06-2000
			JP	2001508190 T	19-06-2001
			WO	9823897 A1	04-06-1998
			บร	6331914 B1	18-12-2001